

## **Remarks/Arguments**

The present invention provides a distributed solution for IP based multimedia distribution both in real time and time-shifted formats in combination with providing voice transmission capability and unified data services. As described in the specification at page 14 line 21 – page 15 line 8, the present invention provides routing and switching in layers 3 and 2 using protocols of the Open System Interconnection (OSI) standard. To accommodate the distributed elements of the system, the output subsystem employs Switch Engine Modules (SEM), Routing Engine Modules (REM) and Packet Engine Modules (PEM) for control of output from the various system elements in non-blocking packet forwarding applications as described on page 14 line 21 through page 18 line 16 with respect to FIG. 8. The SEM specifically operate to provide Layer 2/layer 3 non-blocking switching which differs from prior art systems which conduct switching at a lower protocol layer and allows more efficient operation of complete telecommunications services including time shifted television, internet services as well as voice over IP (VOIP). The overall architecture of the invention allows each of the subsystems to be scaled according to data volume, user volume and other system variables by selecting the number of media creation units present in the media creator subsystem and, separately, the number of individual media streaming engines in the media streaming subsystem while the output system, specifically operating the level 2 and level 3 of the OSI standard enhances the switching capability for output from the various elements in non-blocking fashion while maintaining the capability for simultaneous vocoding and transmission of voice signals as well as transmission of unified data services.

Independent claims 1, 8, 18, 25, 35, 42, 52 and 53 are currently amended to clarify the elements and combination of the present invention.

The Examiner has rejected claims 1-5, 7-11, 13-16, 18-22, 24-28 30-33, 35-39, 41-45, 47-50 and 52 based on Son et al in view of Ferguson, Graber et al., and further in view of Turner (4,901,309) and Read (US20020162116A1). In view of the amendments to the independent claims, the Examiner's rejection is respectfully traversed. None of the cited art discloses a distributed system capable of multimedia transmission in combination with voice and data capability which is expandable modularly due to the layer 2/layer 3 operating characteristics of the invention.

The Examiner's reliance on Graber for disclosure of elements of the invention is also respectfully traversed. The Examiner characterizes Graber as disclosing a portable signal format. The applicants respectfully contend that Graber describes dedicated video distribution systems that provide no disclosure or suggestion for combination with distributed elements capable of standard unified data services and particularly voice capability.

The Examiner relies on a combination of Turner and Read to disclose the output subsystem of the invention as disclosed and claimed. The claims have been amended to clarify the present invention and its particular efficiency and modular expandability based on its operation in layers 2 and 3 as opposed to lower layers in the OSI standard. Turner discloses packet switching in a network with circuit properties which operates one layer below the currently disclosed invention. The disclosure of Turner does not suggest operation of an IP based network provided by the environment of the present invention with switching accomplished in layer 2 and layer 3. As disclosed in the present specification at page 15 lines 1 and 2, wire-speed IP routing is accomplished in 3 while wire-speed switching is accomplished in layer 3 by the SEM. The applicants therefore respectfully contend that the disclosure of Turner does not disclose or suggest the present invention as defined in the amended claims.

Further, Read discloses VOIP as an element of a cable based system providing television programming. However, no disclosure of any approach to modulating and demodulating the RF frequency operating signals of Read for use in a network system such as Turner is disclosed or suggested. The applicants respectfully contend that combination of Read with Turner is not supported by the disclosures therein and particularly in view of the argument above with respect to Turner, the references do not disclose or suggest the elements of the invention as claimed in the amended claims.

The applicant's respectfully contend that the independent claims 1, 18 and 35 and 8, 25 and 42 as currently amended overcome the Examiner's rejections and are now allowable. Claim 35 has also been amended to provide proper antecedent basis for elements in subsequent dependent claims. The Examiner's rejections of the dependent claims 2, 19 and 36; 3-5, 20-22 and 37-39; 7, 24 and 41; 14, 16, 31, 33, 48 and 50; 15, 32 and 49 are respectfully traversed in view of the underlying non-obvious structure of the

elements present in the independent claims on which the elements of the dependent claims are added as further limitation.

With respect to the Examiner's rejection of claims 8, 25 and 42, the applicants respectfully contend that the argument presented above is equally applicable with respect to these claims these claims are therefore allowable based on that argument.

The Examiner's rejection of claims 9, 26 and 43; 10, 27 and 44; 11, 28 and 45, and 13, 30 and 47 are respectfully traversed in view of the underlying non-obvious structure of the elements present in the independent claims on which the elements of the dependent claims are added as further limitation.

With respect to the Examiner's rejection of claims 6, 23 and 40, the applicants respectfully contend that the addition of Dogan does not disclose or suggest the basic elements present in the independent claims on which these claims depend and these dependent claims are therefore allowable based on the argument presented above.

With respect to the Examiner's rejection of claims 12, 29 and 46 the applicants respectfully contend that the addition of Yamamoto does not disclose or suggest the basic elements present in the independent claims, as amended, on which these claims depend and these dependent claims are therefore allowable based on the argument presented above.

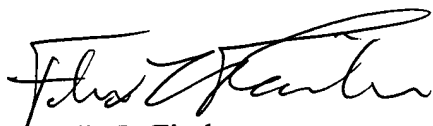
With regard to the Examiner's rejection of claims 17, 34 and 51, applicants respectfully contend that St. Arnaud et al. does not add further disclosure to the previously cited prior art with respect to the underlying elements of the independent claims as amended and believe that these claims are allowable based on the argument presented above.

The Examiner's rejection of claim 53 is respectfully traversed in view of the amendment thereto based on the arguments presented above for the capability of the present invention to operate a switching capability in OSI layer 2 and layer 3.

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The applicants believe that all claims now pending in the application as amended are in condition for allowance and action by the Examiner in that regard is respectfully requested.

Respectfully submitted,



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Date: 04/27/2005